

```
Hydrophobic
                                                        Hydrophilic
               -2
                                                              2
     0.00
 1
                                       Μ
 2
     0.00
                                       Η
 3
    -0.15
                                     = R
 4
    -0.29
                                  === L
 5
    -0.71
 6
    -1.38
 7
    -1.49
 8
    -1.61
 9
    -1.47
                      ==========
10
    -1.30
                        ======= L
    -0.88
11
12
    -1.23
13
    -1.10
14
    -0.75
                             ====== N
    -0.75
15
                             ====== F
16
    -0.17
                                    == C
     0.30
17
                                       S ===
18
     0.65
                                       C
                                        ======
19
     0.87
                                       R
20
     0.73
                                       D
21
     0.83
                                       \mathbf{T}
     0.33
22
                                       S
23
    -0.13
                                     = A
    -0.02
                                       Т
24
25
                                     = P
    -0.15
    -0.02
                                       Q
26
                                   === S
27
    -0.25
28
     0.25
                                       A ===
29
     0.13
                                       S
                                         =
    -0.22
30
                                    == I
31
     0.37
                                       K ====
32
     0.35
                                       A ====
     0.57
33
                                       L =====
34
     0.10
                                       R =
35
    -0.12
                                     = N
36
     0.68
                                       A =====
37
     0.68
                                       N ======
38
     1.15
                                         =========
39
     1.73
                                         ______
40
     1.75
                                       R ==========
41
     2.08
42
     1.50
                                       E =========
     0.70
43
                                       S ======
44
     0.13
                                       N =
     0.13
45
                                       H =
46
    -0.22
                                    == L
47
                               ===== T
    -0.63
48
                                       D
    -0.05
```

Fig. 1A

```
49
     0.75
                                     L ======
50
     1.32
                                     Y =========
     1.32
51
52
     1.55
                                       53
     1.63
                                       54
     1.17
                                     E =======
55
    0.42
                                     T ====
     0.42
56
                                     I
                                       ====
57
    -0.08
                                   = Q
58
    0.02
                                     V
59
    0.32
                                     K ===
60
    -0.10
                                   = G
    -0.10
61
                                   = N
62
    -0.57
                              ===== G
63
    -0.52
                               ==== Y
64
    -0.55
                              ===== V
65
    -0.05
                                     Q
66
    -0.08
                                     S
                                   =
67
     0.17
                                     P ==
68
    0.17
                                     R ==
69
    0.17
                                     F
                                       ==
70
    0.18
                                     P ==
71
    -0.32
                                 ===N
72
    0.60
                                     S =====
73
    0.63
                                     y =====
74
    0.30
                                     Ρ
75
    -0.05
                                     R
76
    -0.37
                                ==== N
77
    -0.43
                                ==== L
78
    -1.50
79
    -1.03
                          ======= L
80
    -1.03
                          ======= T
81
    -0.82
                            ====== W
82
    -0.47
                               ======R
83
    -0.37
                                ==== L
84
    0.70
                                     H ======
85
    0.23
                                     S ==
     0.47
86
                                     Q
                                       =====
87
     1.05
                                     Ε
                                       =========
88
     0.70
                                     Ν
                                       ======
     0.70
89
                                     Т
                                       ======
90
    -0.10
                                   = R
91
    -0.38
                                ==== I
92
    -0.73
                             ===== Q
93
    -0.73
                             ====== L
94
    -0.40
                                ==== V
95
    -0.40
                                ==== F
96
    -0.52
                               ==== D
97
    -0.27
                                 === N
98
    -0.15
                                   = Q
```

Fig. 1B

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```
99
    -0.15
                                   = F
     0.32
100
                                     G ===
101
     0.20
                                     L ==
102
     1.12
                                     E =======
     1.15
103
                                     E ========
104
     1.95
                                     105
     1.15
                                     E =======
106
     0.48
                                     N =====
107
     1.07
                                     D =======
108
     0.18
                                     I ==
109
     0.65
                                     C =====
110
    -0.27
                                 ===R
111
    -0.22
                                  == Y
112
     0.45
                                    D =====
    -0.30
113
                                 === F
114
     0.58
                                     V =====
115
     0.58
                                     E =====
     0.70
116
                                     V ======
117
     1.00
                                     E =======
118
     1.00
                                     D
                                      ========
119
     1.18
                                     I =========
120
     0.73
                                     S =====
     0.17
121
                                     E ==
     0.17
122
                                     T ==
123
    -0.18
                                  == S
124
    -0.18
                                  == T
125
    -0.12
                                   = I
126
     0.33
                                     I ===
127
    -0.17
                                  == R
128
    -0.03
                                     G
129
     0.27
                                     R ===
130
    -0.32
                                 === W
131
     0.18
                                     C :==
132
     0.18
                                     G ==
133
     0.50
                                     H =====
134
     0.67
                                     K ======
     0.67
135
                                     E =====
     1.25
136
                                     V ========
137
     0.45
                                     P =====
138
     0.45
                                     P =====
139
     0.75
                                     R ======
     1.25
140
                                     Ι
                                       =========
141
     1.18
                                     K ========
142
     0.72
                                     S ======
143
     1.05
                                     R ========
144
     0.25
                                     T ===
145
     0.70
                                     N ======
146
    -0.10
                                   = Q
147
     -0.10
                                   = I
148
     -0.55
                               ===== K
149
     -0.08
                                   = I
```

Fig. 1C

```
150
      0.27
                                           ===
151
      0.27
                                         F
                                           ===
152
      1.07
                                         K
                                            ========
153
      0.75
                                            =======
154
      0.75
                                         D
                                            =======
155
      0.00
                                         D
156
     -0.13
                                       = Y
157
     -0.13
                                       = F
158
     -0.63
                                 ===== V
159
     -0.25
                                     ===A
160
     -0.25
                                     ===K
161
      0.50
                                         P =====
162
      0.28
                                         G
163
     -0.60
                                 ===== F
164
     -0.98
                             ======= K
165
     -0.93
                              ======= I
166
     -0.82
                                         Y
167
     -1.62
                      ========= Y
168
     -0.82
                               ====== S
169
      0.07
                                         L
      0.03
170
                                         L
171
      0.02
                                         E
172
      0.32
                                         D
                                           ===
173
      0.53
                                         F
174
     -0.05
                                       = Q
175
     -0.63
                                 ===== P
176
     -0.17
                                      == A
177
      0.30
                                         A ===
178
      0.23
                                         A ==
179
      0.35
                                         S
      0.27
180
                                         Ε
181
      0.85
                                         \mathbf{T}
                                           ========
182
      0.85
                                         N
                                           ========
      0.10
183
                                         W
184
      0.10
                                         Ε
185
      0.12
                                         S
                                           =
186
      0.33
                                         V
                                           ===
187
     -0.47
                                   ==== T
     -1.08
188
                                         S
189
     -0.83
                                         S
                               =======
190
     -1.02
                             ======= I
191
     -1.02
192
     -1.45
193
     -1.12
                            ======= V
194
     -0.50
                                   ==== S
195
     -0.50
                                   ==== Y
196
     -0.20
                                      == N
197
     -0.50
                                   ==== S
198
     -0.18
                                      == P
199
      0.28
                                         S
200
      0.23
                                         V ==
```

Fig. 1D

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```
201
     0.17
                                     T ==
202
    -0.18
                                  == D
     -0.23
203
                                 == P
     -0.25
204
                                 === T
     -0.25
205
                                 === L
206
     -0.33
                                 === I
     -0.57
207
                              ===== A
208
     0.23
                                    D ==
209
     1.03
                                    A =======
210
     1.62
                                     L ===========
211
     0.82
                                     D ======
212
     0.82
                                     K ======
213
     1.62
                                     K =========
214
     0.70
                                     I ======
215
     0.70
                                     A ======
216
     0.13
                                    E =
217
     0.18
                                     F ==
218
     0.77
                                     D
                                      =======
219
     0.77
                                     T ======
220
     0.88
                                     V =======
221
     0.08
                                     E =
222
     0.65
                                     D ======
223
     0.52
                                     L =====
224
     -0.40
                                ==== L
225
     -0.87
                           ====== K
226
    -0.57
                              ===== Y
227
     0.23
                                    F ==
228
    -0.22
                                  == N
229
     0.00
                                     Ρ
230
     0.45
                                     E ====
231
     0.92
                                     S =======
232
     1.42
                                      _____
233
     0.62
                                     Q
                                      =====
234
     1.07
                                     E
                                      ========
235
     1.27
                                     D
                                      ==========
     1.02
236
237
     0.13
                                    E =
                             ===== N
238
    -0.67
239
     0.13
                                    M
     -0.43
240
                               ==== Y
    -0.47
241
                               ==== L
242
     0.25
                                     D ===
243
     0.65
                                     T ======
244
     1.45
                                     P =========
245
     0.95
                                     R =======
246
      1.52
                                      ===========
247
      1.57
                                     R =========
     1.08
248
                                     G =======
249
     0.98
                                     R =======
     0.98
250
251
      1.48
                                     v ==========
```

Fig. 1E

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```
252
     1.48
                                   H =========
253
     1.48
                                   D =========
254
     1.97
                                   R ===========
255
     1.80
                                   K ==========
256
     1.80
                                   S ==========
257
     1.00
                                   K =======
258
     1.00
                                   V =======
259
     1.45
                                   D =========
260
     0.65
                                   L ======
261
     0.93
                                   D ======
262
     0.93
                                   R =======
263
     1.73
                                   L =========
     1.15
264
                                   N ========
     1.15
265
                                   D ========
266
     1.95
                                   D =============
267
     1.93
                                   A ============
268
     1.48
                                   K =========
269
     0.82
                                   R ======
                                   y ======
270
     0.83
271
     0.33
                                   S ===
     0.33
272
                                   C ===
273
     0.35
                                   T ====
274
     0.32
                                   P ===
275
     0.53
                                   R =====
276
     0.35
                                   N ====
277
     0.38
                                   У
278
    -0.42
                              ==== S
279
     0.05
                                   V =
280
     0.53
                                   N =====
281
     0.98
                                   I ========
282
     0.93
                                   R =======
283
     1.40
                                   E =========
284
     1.40
                                     _____
285
     0.82
                                   L ======
286
     0.35
                                   K ====
    -0.40
287
                              ==== L
288
    -0.35
289
    -1.27
                      ======== N
290
    -1.38
                     ======== V
291
    -1.30
                      ======== V
292
    -0.83
                          ====== F
293
    -0.75
                          ====== F
294
    -0.80
                           ====== P
295
    -0.68
                            ===== R
296
    -0.52
                             ==== C
297
    -0.48
                             ==== L
298
    -0.48
                             ==== L
299
    -0.48
                             ==== V
300
    -0.18
                                == 0
301
     0.12
                                   R =
302
     0.40
                                   C ====
```

Fig. 1F

```
303
      0.20
                                           G ==
304
     -0.30
                                      ===G
305
     -0.30
                                      ===N
306
     -0.87
                               ======= C
307
     -0.93
                               ====== G
     -1.22
308
                                           C
309
     -1.02
310
     -1.58
311
     -0.92
312
     -0.30
                                      === N
313
     -0.40
                                     ==== W
314
     -0.22
                                       ==R
315
     -0.42
                                          S
316
      0.18
                                           С
                                      === T
317
     -0.27
318
     -0.32
                                      === C
319
      0.35
                                           N
320
      0.35
                                           S
      0.27
321
                                           G
322
      0.73
                                           K
323
      1.18
                                             _____
      1.20
324
325
      0.62
326
      1.18
                                           K
327
      1.18
                                             ==========
                                           У
      0.38
328
                                           Η
     -0.08
329
                                          \mathbf{E}
330
     -0.52
                                    ==== V
331
      0.07
                                           L =
332
     -0.43
                                     ==== Q
333
     -0.18
                                       == F
334
      0.03
                                           Ε
335
     -0.30
                                      ===P
336
      0.62
                                           G =====
      0.62
337
                                           Н
                                             =====
338
      1.12
                                             =========
      1.12
339
340
      1.70
      1.92
341
      1.92
342
343
      1.35
344
      0.63
                                           Α
                                             =====
345
      0.55
                                           K
                                             =====
                                      === T
346
     -0.25
347
     -0.42
                                     ==== M
     -0.42
348
                                     ==== A
349
     -0.65
                                 ====== L
350
     -0.40
                                     ==== V
351
     -0.62
                                   ===== D
352
      0.18
                                           Ι
                                             ==
      0.35
353
                                           Q
                                             ====
354
      0.17
                                           L ==
```

355	0.97				D	=========
356	1.43				Η	=============
357	1.57				h	=======================================
358	1.57				E	===========
359	1.48				R	=======================================
360	0.87				С	========
361	0.20				D	==
362	-0.14			=	С	
363	0.19				I	==
364	0.30				С	===
365	0.58				S	=====
366	0.99				S	========
367	1.77				R	=======================================
368	0.00				Р	
369	0.00				Ρ	
370	0.00				R	
					1	
		- <u>2</u>	-1		Ò	1 2
	ΗΣ	drophobic				Hydrophilic

Fig. 1H